

## NRDC Template Submission on Residential Lighting

### Contact Info:

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**Description-** We are seeking improvements to the existing sections of the residential standards that deal with lighting. These changes would be revisions to the existing mandatory measures.

We recommend the following changes:

- a) Redefine bathrooms – the current definition of a room with a shower or bathtub is too narrow and needs to be updated. It unnecessarily excludes half baths (room with just toilet and/or sink) and the very popular master bath layout which often consists of one or two sinks, a large mirror and numerous lights in an area adjacent to the toilet/shower area.
- b) The code on page 123 currently contains numerous exclusions. (e.g. if you put in efficient lights in the utility room, you don't have to put in efficient bathroom lighting, etc.) These exclusions are unnecessary and should be eliminated.
- c) Require energy efficient lighting fixtures for all outdoor lighting, especially the outdoor porch lights. The Energy Star fixture language can be lifted and used here (must meet LPW limit or have motion sensor)
- d) The code currently requires only one luminaire to meet the code for the bathroom and kitchen. This approach results in only one fixture meeting the code and the rest of the fixtures being incandescent or halogen, much greater energy users. A new approach is needed, especially given the new and improved energy efficient recessed cans that are due to hit the market next year.
- e) Ceiling fans – as most builders install ceiling fans in their homes with light kits, we recommend inclusion of these devices into the code. New fluorescent based light kits bearing the Energy Star label will be on the market in early 2002.

**Benefits** – The changes would result in reduced energy consumption for hard-wired lighting fixtures contained in new homes. Home owners would not only have reduced electric bills (note lighting currently comprises roughly 15 % of residential electricity

usage) but will also benefit from longer lasting light sources (bulbs) that greatly reduce the frequency and inconvenience of bulb changes.

**Env Impacts** – none

**Type of Change** – We recommend revising the residential lighting section. The current mandatory measures would be replaced with new text (keeping the reqts as mandatory measures).

**Measure Availability** – With the exception of the improved recessed can, energy efficient fixtures are available for all the applications considered in this proposal. The Energy Star program can provide extensive information on product availability, incremental cost, etc.

New recessed cans using pin-based fluorescent technology are in development by several companies and should be available by 2002.

New energy efficient ceiling fans with light kits will be available from virtually all of the major manufacturers at Home Depot and Lowes. The Energy Star light kits will meet the Energy Star fixture requirements.

**Persistence** – Hard wired, pin-based light fixtures are not changed out very frequently, so they provide persistent energy savings. Maintenance is reduced by this code change as fewer lamp replacements are required.

**Cost Effectiveness** – While some of these fixtures have higher initial costs, they are very cost effective when the combined savings of reduced electricity costs (roughly 75%) and less frequent lamp purchases are factored .

**Analysis Tools** – calculating energy savings is very simple and will not require new tool development. In most cases its simply a question of subtraction (replace a 60W incandescent lamp with a 20 W CFL). Assumptions would need to be made for hours of operation when dealing with controls in cases such as outdoor lights using motion sensors.